

REMARKS

Reconsideration and allowance of the present patent application based on the following remarks are respectfully requested.

By this Amendment, claims 1 and 20 are amended. Support for the amendments to claims 1 and 20 can be found throughout the original disclosure. No new matter has been added. Claims 7, 8, 13 and 16-19 are allowed. Accordingly, after entry of this Amendment claims 1-5, 7-8, 10-13, 16-21 and 23-25 will remain pending in the patent application.

Claims 1-5, 10, 11, 12, 20, 21 and 24 were rejected under 35 U.S.C. §103(a) based on Lee (U.S. Patent No. 5,930,610). The rejection is respectfully traversed.

Claim 1 recites a device manufacturing method wherein, *inter alia*, "the second layer of electromagnetic radiation sensitive material is selected such that after developing the second layer a side portion of the developed second layer defines a negative slope with respect to a direction substantially perpendicular to a surface of the substrate." These features are amply supported in the present application. For example, as explained in paragraph 59 of the present application, the portion 25 removed from the second layer 20 is wedge shaped so that parts of the second layer 20 furthest from the substrate 1 overhang the substrate. In lithography this is termed a negative slope and occurs with certain types of resist. The cited portions of Lee do not disclose, teach or suggest these aspects of claim 1.

By way of review, the cited portions of Lee disclose a method for manufacturing a T-gate, the method including successively depositing a first PMMA layer 2, a PMIPK layer 3 and a second PMMA layer 2a on a substrate 1. *See* Lee at col. 1, lines 28-31. The first PMMA layer 2, the PMIPK layer 3 and the second PMMA layer 2a are then developed and a T-gate electrode 4a is formed. *See* Lee at col. 1, lines 41-50.

The Office refers to the first PMMA layer 2a and the PMIPK layer 3 of Lee as being the first and second layer material of claim 1. However, unlike claim 1, none of the layers of Lee, i.e. the PMIPK layer 3, the first PMMA layer 2 and the second PMMA layer 2a, has a side portion after development that defines a negative slope with respect to a direction substantially perpendicular to a surface of the substrate. Quite to the contrary, it appears that each of the PMIPK layer 3, the first PMMA layer 2 and the second PMMA layer 2a of Lee has a straight side portion. The cited portions of Lee are silent as to having a side portion of the developed PMIPK layer 3 that defines a negative slope. As such, claim 1 is not obvious in view of Lee.

Claims 2-5, 10-12 and 24 are patentable over the cited portions of Lee at least by virtue of their dependency from claim 1 and for the additional features recited therein.

Claim 20 is patentable over the cited portions of Lee for at least similar reasons as provided above for claim 1 and for the features recited therein. For example, the cited portions of Lee do not disclose, teach or suggest a substrate for use in an electromagnetic lithographic apparatus, said substrate comprising, *inter alia*, "...a second layer of electromagnetic radiation sensitive material attached to said first layer of radiation sensitive material, a side portion of the developed second layer defining a negative slope with respect to a direction substantially perpendicular to a surface of the substrate..."

Claim 21 is patentable over the cited portions of Lee at least by virtue of their dependency from claim 1 and for the additional features recited therein.

Accordingly, reconsideration and withdrawal of the rejection of claims 1-5, 10, 11, 12, 20, 21 and 24 under 35 U.S.C. §103(a) based on Lee are respectfully requested.

Claim 23 was rejected under 35 U.S.C. §103(a) based on Lee in view of Ahmed *et al.* (hereinafter "Ahmed") (U.S. Pub. No. 2004/0056304). The rejection is respectfully traversed.

Claim 23 is patentable over the cited portions of Lee at least by virtue of its dependency from claim 1 and for the additional features recited therein.

The cited portions of Ahmed do not remedy the deficiencies of Lee. For example, the cited portions of Ahmed are silent as to a device manufacturing method wherein, *inter alia*, "the material of the second layer of electromagnetic radiation sensitive material is selected such that after developing the second layer a side portion of the developed second layer defines a negative slope with respect to a direction substantially perpendicular to a surface of the substrate." Therefore, any proper combination of the cited portions of Lee and Ahmed cannot result, in any way, in the invention of claim 23.

Accordingly, reconsideration and withdrawal of the rejection of claim 23 under 35 U.S.C. §103(a) based on Lee in view of Ahmed are respectfully requested.

Claim 23 is patentable over the cited portions of Lee at least by virtue of its dependency from claim 1 and for the additional features recited therein.

Claim 23 was rejected under 35 U.S.C. §103(a) based on Lee in view of Kazama *et al.* (hereinafter "Kazama") (U.S. Pub. No. 2002/0034872). The rejection is respectfully traversed.

Claim 23 is patentable over the cited portions of Lee at least by virtue of its dependency from claim 1 and for the additional features recited therein.

The cited portions of Kazama do not remedy the deficiencies of Lee. For example, the cited portions of Kazama are silent as to a device manufacturing method wherein, *inter alia*, "the second layer of electromagnetic radiation sensitive material is selected such that after developing the second layer a side portion of the developed second layer defines a negative slope with respect to a direction substantially perpendicular to a surface of the substrate." Therefore, any proper combination of the cited portions of Lee and Kazama cannot result, in any way, in the invention of claim 23.

Accordingly, reconsideration and withdrawal of the rejection of claim 23 under 35 U.S.C. §103(a) based on Lee in view of Kazama are respectfully requested.

Claim 25 was rejected under 35 U.S.C. §103(a) based on Lee in view of Ahmed. The rejection is respectfully traversed.

Claim 25 is patentable over the cited portions of Lee at least by virtue of its dependency from claim 20 and for the additional features recited therein.

The cited portions of Ahmed do not remedy the deficiencies of Lee. For example, the cited portions of Ahmed are silent as to a substrate for use in an electromagnetic lithographic apparatus, said substrate comprising, *inter alia*, "...a second layer of electromagnetic radiation sensitive material attached to said first layer of radiation sensitive material, a side portion of the developed second layer defining a negative slope with respect to a direction substantially perpendicular to a surface of the substrate..."

Therefore, any proper combination of the cited portions of Lee and Ahmed cannot result, in any way, in the invention of claim 25.

Accordingly, reconsideration and withdrawal of the rejection of claim 25 under 35 U.S.C. §103(a) based on Lee in view of Ahmed are respectfully requested.

Claim 25 was rejected under 35 U.S.C. §103(a) based on Lee in view of Kazama. The rejection is respectfully traversed.

Claim 25 is patentable over the cited portions of Lee at least by virtue of its dependency from claim 20 and for the additional features recited therein.

The cited portions of Kazama do not remedy the deficiencies of Lee. For example, the cited portions of Kazama are silent as to a substrate for use in an electromagnetic lithographic apparatus, said substrate comprising, *inter alia*, "...a second layer of electromagnetic radiation sensitive material attached to said first layer of radiation sensitive material, a side portion of the developed second layer defining a negative slope with respect to a direction substantially perpendicular to a surface of the substrate..."

Therefore, any proper combination of the cited portions of Lee and Kazama cannot result, in any way, in the invention of claim 25.

Accordingly, reconsideration and withdrawal of the rejection of claim 25 under 35 U.S.C. §103(a) based on Lee in view of Kazama are respectfully requested.

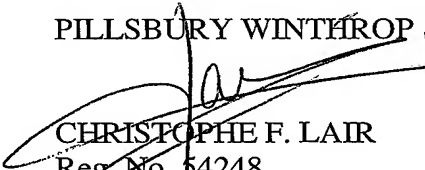
The rejections having been addressed, Applicant respectfully submits that the application is in condition for allowance, and a notice to that effect is earnestly solicited.

If any point remains in issue which the Examiner feels may be best resolved through a personal or telephone interview, please contact the undersigned at the telephone number listed below.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

PILLSBURY WINTHROP SHAW PITTMAN LLP



CHRISTOPHE F. LAIR
Reg. No. 54248
Tel. No. 703.770.7797
Fax No. 703.770.7901

JSB/CFL/pj
P.O. Box 10500
McLean, VA 22102
(703) 770-7900